

Cement Australia General Purpose Cement is a Portland cement and fully complies with the requirements for Type GP cement in Australian Standard AS3972 - General purpose and blended cements.

CEMENT PROPERTIES

Property		AS3972 – 1997 Type GP	Typical GP
Setting Time	Min	45 min	60-150 min
	Max	10 hrs	2.0-3.5 hrs
Soundness	Max	5mm	< 3mm
SO ₃	Max	3.50%	< 3.5%
ISO Mortar Compressive Strength	3 Day (min)	–	30-42 MPa
	7 Day (min)	25 MPa	43-54 MPa
	28 Day (min)	40 MPa	54-65 MPa

All testing is conducted in accordance with the relevant Australian Standards test methods, at a NATA registered laboratory. Results are reflective of the testing results across all Cement Australia's manufacturing plants.

AVAILABILITY

General Purpose Cement is available in 20kg bags, 500kg and 1 tonne bulk bags.

COMPATIBILITIES

General Purpose Cement is compatible with:

- Admixtures that comply with **AS 1478 Chemical Admixtures for Concrete.**
- Fly Ashes complying with **AS 3582.1 Supplementary Cementitious Materials for Use with Portland cement: Fly Ash.**
- Ground granulated blast furnace slags complying with **AS3582.2 – Supplementary cementitious materials for use with Portland cement: Slag – ground granulated Iron blast-furnace.**
- Other cements complying with **AS3972 – General purpose and blended cements.**

Caution: General Purpose Cement must not be mixed with high alumina cement as this may result in uncontrollable expansion and short setting times.

APPLICATIONS

General Purpose Cement can be used as a cementitious binder in a broad range of applications including:

- Concrete
- Mortars
- Renders
- Grouts

Where specific properties such as rapid setting or high early strength are required a more specialised cement should be considered.

For more information
call **1300 CEMENT (1300 236 368)**
or visit www.cementaustralia.com.au

Mix it with the best.



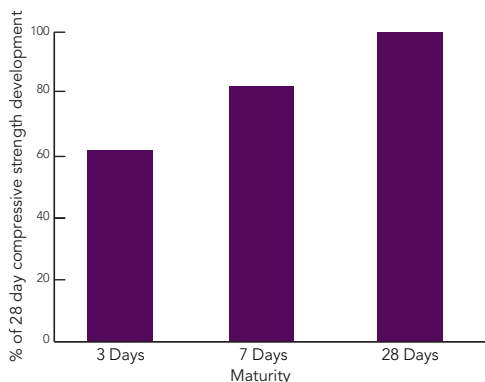
CONCRETE PROPERTIES

Compressive Strength Development:

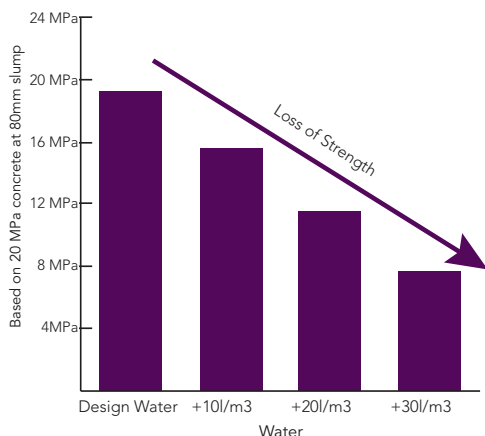
Strength development in Portland cement concrete is affected by a number of factors such as the physical and chemical properties of the cement, water to cement ratio, admixtures, curing and environmental conditions.

The following graph depicts the indicative compressive strength development of GP concrete over time.

COMPRESSIVE STRENGTH DEVELOPMENT



EFFECT OF EXCESS WATER ADDITION ON CONCRETE COMPRESSIVE STRENGTH



Mix Design

The proportioning of constituent materials in a concrete mix is a complicated matter which can be influenced by many factors. We recommend that trials be conducted with the available materials.

NOTE:

The General Purpose Cement Material Safety Data Sheet (MSDS) is available at www.cementaustralia.com.au

PRODUCT DISCLAIMER

Recommendations regarding the use of this product are to be taken as a guide only. If in doubt contact Cement Australia Pty Limited ("Cement Australia") or seek professional advice. To the extent permitted by law, Cement Australia excludes all implied warranties, conditions and guarantees imposed by legislation. Cement Australia excludes all liability for loss, damage or injury arising from use of the product (i) otherwise than in accordance with the recommendations or (ii) for purposes other than those for which it is ordinarily acquired. For all other loss, damage or injury arising from the use of this product, to the extent permitted by law Cement Australia's liability is limited, at its discretion, to refunding the cost of the product or resupplying the product or equivalent product.

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Curing

A minimum curing period of seven days is recommended for all exposure classifications. Concrete should be maintained in a continually moist condition wherever practicable. Water sprays, wet sand or moisture retaining techniques, such as clear polyethylene sheets or curing compounds are recommended.

Curing should begin as soon as the concrete has been finished or in accordance with manufacturers instructions where proprietary curing compounds are used.

In concrete, the practice of curing can deliver compressive strength results up to 100% greater than concrete not subjected to curing. Water application or moisture retaining curing is more effective for most concrete. Curing will also beneficially affect other concrete properties including:

- Reduction in the potential for plastic cracking
- Improvements in surface quality, durability and impermeability
- Improvement in abrasion resistance
- Reduction in the carbonation rate

Mortar/Render Mix Properties

General Purpose Cement is suitable for use in brick mortars, wall renders and concretes. The following table gives a guide to the proportions (by volume) to be used (Note: This information is a guide only, specific advice for your project should be obtained for the materials you are using.)

Additives such as air entrainers, thickening agents or plasticisers can be used but should always be used in accordance with the manufacturers recommendations.

Application	Cement	Sand	Aggregate	20kg bags per m3
Concrete – Improved Water Tightness High Strength	1	1.5	3	17
Concrete – Paths and Driveways	1	2	3	16
Concrete – Foundations, Footings	1	3	3	13
Mortar (general purpose)	1	4	-	15
Mortar (enhanced workability)	1	6 + 1 hydrated lime	-	8
Render	1	3	-	20

STORAGE, HANDLING & SAFETY

- The 'shelf life' of Portland cement products is dependent on the storage conditions. It is necessary for bagged Portland cement to be stored in dry conditions and protected from rain, dew or any other moisture source. Bagged cement that has hardened or is lumpy as a result of exposure to moisture should not be used.
- Portland cement products are highly alkaline materials and are significantly affected by exposure to water.

